

## William Vincent Fitzgerald's species of *Acacia* (Leguminosae: Mimosoideae): typification of the names

B.R. Maslin and R.S. Cowan

Western Australian Herbarium, Department of Conservation and Land Management,  
PO Box 104, Como, Western Australia 6152

### Abstract

Maslin, B.R. and Cowan, R.S. William Vincent Fitzgerald's species of *Acacia* (Leguminosae: Mimosoideae): typification of the names. Nuytsia 9(3): 387-398 (1994). William Vincent Fitzgerald described 33 new species of *Acacia* in four papers published between 1904 and 1917. Notes on these publications and on the specimens used by Fitzgerald are provided. Lectotypes are selected for 23 names, based on specimens located at BM (4), PERTH (6) and NSW (13).

### Introduction

William Vincent Fitzgerald was born on the Mangana goldfield in north-eastern Tasmania on 21 July 1867 and at 16 was training for a career in mining at the School of Mines in that State. About 1890 he began corresponding with, and sending plant specimens to, F. Mueller in Melbourne. In 1903 he was a member of the Western Australian Commission on Forests and the following year became chairman of the Forests Advisory Board of Western Australia. In 1904 Fitzgerald described 23 species of *Acacia*, mostly from the south-west of Western Australia in the inaugural number of "Journal of the West Australian Natural History Society" (Fitzgerald 1904). In April 1905 he was appointed temporarily to the Department of Lands and Surveys as naturalist to the trigonometrical survey expedition to the Kimberley region led by Charles Crossland (Kenneally 1986). Then in 1906 he was sent, at the direction of the Minister of Lands, to survey the potential for arable lands in several river valleys of the Kimberley region (Hall 1978). As a result of these explorations Fitzgerald produced reports for parliament, published initially in the "Western Australian Year Book 1905-1906." These reports included general comments on the flora, fauna, extent of arable land and prospects for gold mining but did not mention specifically any of the new species he stated he had collected. In 1912 he described six new south-west Western Australian species of *Acacia* in "Journal of Botany". It was not until 1917 that three of the new *Acacia* species collected during the 1905 Kimberley expedition were described by Fitzgerald (in Maiden 1917). In a later paper in this same volume Maiden (1917a) published Fitzgerald's south-west Western Australian species, *A. drewiana*.

Because most of the names published by Fitzgerald have not been typified, we have taken the opportunity presented by our work with the "Flora of Australia" to recognise holotypes or to select lectotypes wherever possible. This process is based on a study of Fitzgerald specimens at many herbaria, especially the principal sets at BM, NSW and PERTH.

## Methods

The four publications by Fitzgerald in which new species of *Acacia* were described have different histories and deal with species from different geographical areas. We consider here each paper separately, arranged chronologically by date of publication. For each paper we provide information relevant to the typification of the names contained therein. For each new species we provide the taxon name and author citation, the place of publication and a precise quotation of the type citation given in the protologue; this is followed by the type designation in which we give the data on the type sheet, the abbreviation of the herbarium holding the principal type specimen and the abbreviations of the herbaria holding duplicates of the type. A "Note" is generally attached to our consideration of each species and the status of the name is often indicated here (if no indication is given it should be assumed that the name under which the "Note" appears is the accepted name for that taxon).

### Fitzgerald's *Acacia* publications

#### 1. Species described in *J. W. Austral. Nat. Hist. Soc. 1: 5-17 (1904)*

Twenty-three new species of *Acacia* from south-west Western Australia were described in this publication. These names were based on Fitzgerald's own gatherings except for *A. duriuscula* and *A. resinomarginea* (which were based on E. Kelso collections) and *A. andrewsii* (which was based on both C.R.P. Andrews and W.V. Fitzgerald material). Some Fitzgerald collections were made in September 1898 and July 1899, but most were gathered between June and November 1903.

Although many collections from Western Australia had been made earlier, it was not until the end of the 19th century and the beginning of the 20th, when Fitzgerald was collecting, that specimens began to be retained locally, first at the Western Australian Museum with the encouragement of B.H. Woodward, and slightly later at the Bureau (later Department) of Agriculture with the appointment of Alexander Morrison as the first official botanist (Green 1990). Even though these efforts provided focus for the beginning of two small herbaria in Perth many collections continued to leave the State. The collections of W.V. Fitzgerald provide an example of this outward flow of materials. According to Green (1990: 24) "Fitzgerald donated a set of specimens to the Department of Agriculture, of which many duplicates went to J.H. Maiden in NSW." In addition, NSW purchased a set of specimens in about late 1909 (*via* J. Staer, K.F. Kenneally pers. comm.), which, as noted below, we suspect represented Fitzgerald's personal collection. Also, as will be seen from the discussions below, some specimens even found their way to European herbaria such as BM and K.

The best representation of collections on which Fitzgerald based his new *Acacia* names for species published in this 1904 paper are at NSW and PERTH. From our examination of these materials we have discerned what appear to be patterns that reflect the historical flow of specimens referred to above. This information has been used in our deliberations on the typification of Fitzgerald *Acacia* names. The *Acacia* specimens are accompanied by two types of printed labels, both of which are annotated in Fitzgerald's hand:

(1) Labels on pink paper stock. PERTH has the most comprehensive set of specimens with this type of label, both in terms of the number of taxa represented and the data content of the labels. Of the 21 species based on Fitzgerald collections, PERTH has specimens with pink labels on all but one (i.e. *A. acutata*) whereas NSW has only 13. Furthermore, the PERTH labels normally record some of the

habit and/or habitat data which appear in the protologue, but these notes are absent from the NSW specimens. We suspect that this PERTH collection of Fitzgerald specimens with pink labels was part of the set he donated to the W.A. Department of Agriculture (see above). The (incomplete) NSW set seemingly comprises duplicates of this same collection sent by Fitzgerald prior to his May 1904 publication. We reach this conclusion because notes on the NSW sheets of *A. comans* and *A. euphleba* show that Fitzgerald had corresponded with NSW in April 1904 requesting that specimens he had sent earlier be redetermined, the original manuscript names for these taxa to be replaced with new names.

(2) Labels on white stock. NSW has a very comprehensive set of specimens on white paper stock, whereas PERTH has none. Of the 21 species based on Fitzgerald collections, NSW has 19 specimens with these particular white labels. Interestingly, each of these labels is annotated "Type" by Fitzgerald but we consider that he was probably not using the term in today's sense, that is as nomenclatural types, and was not lectotypifying his names. We suspect that these specimens were part of Fitzgerald's personal collection which NSW purchased in late 1909 (see above).

In view of the fact that two annotated sets of Fitzgerald collections exist, lectotypification is regarded as desirable. In designating lectotypes we have given preference to those NSW specimens which we assume originated from Fitzgerald's personal herbarium, i.e. those with the white labels (see 2 above). In general these specimens are the more complete, although their label information is not as comprehensive as that given on competing PERTH specimens with pink labels. Therefore, unless otherwise noted in the following list, it should be assumed that the lectotypes, holotypes and many paralectotypes at NSW (but not commonly the isolectotypes) are accompanied by labels on white stock. We have avoided selecting unmounted NSW specimens as lectotypes when another choice was possible because of the real possibility of the actual content changing over the years or the labels becoming mixed. For PERTH specimens, only those with pink labels have been annotated by Fitzgerald and, unless otherwise noted, it should be assumed that it is these specimens which are cited below.

***Acacia acuaria*** W. Fitzg., J. W. Austral. Nat. Hist. Soc. 1: 7 (1904). Type citation: "Cunderdin, fl. Aug., fr. Nov. 1903; Mingenew, fl. Sept. 1903. - W.V.F." *Lectotype* (here selected): Cunderdin, W.A., Aug. 1903, *W.V. Fitzgerald s.n.* (PERTH 00739359, flowering specimen); *isolectotype*: NSW. *Paralectotype 1* (fruiting specimens): Cunderdin, W.A., Nov. 1903, *W.V. Fitzgerald s.n.* (NSW, PERTH 00739340). *Paralectotype 2* (flowering specimen): Mingenew, W.A., Sept. 1903, *W.V. Fitzgerald s.n.* (NSW).

Note. The NSW specimens from Fitzgerald's presumed personal collection are either unmounted or depauperate, thus the lectotype has been selected from the PERTH material.

***Acacia acutata*** W. Fitzg., J.W. Austral. Nat. Hist. Soc. 1: 6 (1904). Type citation: "Cunderdin, August, 1903. - W.V.F." *Holotype*: Cunderdin, W.A., Aug. 1903, *W.V. Fitzgerald s.n.* (NSW); *isotype*: K (comm. W.E. Blackall 1936).

Note. The Kew isotype does not bear Fitzgerald handwriting.

***Acacia andrewsii*** W. Fitzg., J.W. Austral. Nat. Hist. Soc. 1: 6 (1904). Type citation: "Watheroo, fl. August, 1903. - C.R.P. Andrews; Wurarga, fr. Sept. 1903. - W.V.F." *Lectotype* (here selected): Watheroo, W.A., Aug. 1903, *C.P.R. Andrews s.n.* (PERTH 00740489, flowering specimen); *isolectotypes*: K (comm. W.E. Blackall 1936), NSW, PERTH 00740470. *Paralectotype* (fruiting

specimens): Wurarga, W.A., Sept. 1903, *W.V. Fitzgerald s.n.* (NSW, PERTH 00740497 - presumably ex herb. W.E. Blackall).

Note. In order to apply this name with confidence it is preferable that Andrews' flowering collection be selected as lectotype rather than Fitzgerald's which is in fruit. The Andrews' specimen at NSW from Fitzgerald's presumed personal collection is unmounted and rather depauperate, thus the lectotype has been selected from the PERTH material.

**Acacia cliftoniana** W. Fitzg., J.W. Austral. Nat. Hist. Soc. 1: 10 (1904). Type citation: "Arrino, Sept. 1903. - W.V.F." *Lectotype* (here selected): Arrino, W.A., Sept. 1903, *W.V. Fitzgerald s.n.* (NSW 167229); *isolectotypes*: NSW 167228, PERTH 00744743, 00744727 (ex herb. C.A. Gardner no. 1311a), 00744735 (fragment of unknown origin).

Note. This name will be treated as a subspecies of *A. congesta* in the "Flora of Australia" account of *Acacia*.

**Acacia comans** W.V. Fitzgerald, J.W. Austral. Nat. Hist. Soc. 1: 5 (1904). Type citation: "Arrino, Sept. 1903. - W.V.F." *Lectotype* (here selected): Arrino, W.A., Sept. 1903, *W.V. Fitzgerald s.n.* (NSW 216914); *isolectotypes*: NSW, PERTH 00745189.

**Acacia dubia** W. Fitzg., J.W. Austral. Nat. Hist. Soc. 1: 9 (1904). Type citation: "Boulder, Sept. 1898. - W.V.F." *Lectotype* (here selected): Boulder, W.A., Sept. 1898, *W.V. Fitzgerald s.n.* (NSW 167219); *isolectotypes*: PERTH 00749931 & 00133124 (ex herb. W.E. Blackall).

Note. *Acacia dubia* will be treated as a synonym of *A. merrallii* F. Muell. in the "Flora of Australia" account of *Acacia*.

**Acacia duriuscula** W. Fitzg., J.W. Austral. Nat. Hist. Soc. 1: 15 (1904). Type citation: "Coolgardie district. - E. Kelso." *Syntype*: Coolgardie district, W.A., *E. Kelso s.n.* (NSW); ? *isosyntypes*: NSW, PERTH 00749974 (not ex herb. W.V. Fitzgerald) & 00749982 (ex Herbarium of the Department of Agriculture, W.A.).

Note. According to the protologue this name was based on "two small specimens". The only material annotated by Fitzgerald that we have seen is at NSW and comprises a small flowering branchlet c. 10 cm long, accompanied by a label with the printed title "Herbarium of the Department of Agriculture, W.A." (but this title has been cancelled by hand). Much larger specimens of *A. duriuscula* collected by Kelso in 1902 are at both NSW and PERTH but none are annotated by Fitzgerald; these are treated here as possible isosyntypes. In the absence of seeing both specimens referred to by Fitzgerald, and given the inadequacy of the authentic NSW material, we have refrained from lectotypifying the name.

**Acacia euphleba** W. Fitzg., J.W. Austral. Nat. Hist. Soc. 1: 16 (1904). Type citation: "Milly's Soak and Jack's Well, Sept. 1903; Gwalia, Nov. 1903 - W.V.F." *Lectotype*: Near Milly's Soak, W.A., Sept. 1903, *W.V. Fitzgerald s.n.* (NSW), designated by B. Randell, J. Adelaide Bot. Gard. 14(2): 127 (1992); *isolectotypes*: NSW, PERTH 00751561. *Paralectotype*: Gwalia, W.A., Nov. 1903, *W.V. Fitzgerald s.n.* (n.v.).

Note. *Acacia euphleba* is treated as conspecific with *A. craspedocarpa* F. Muell. by Randell (*loc. cit.*).

**Acacia exocarpoides** W. Fitzg., J.W. Austral. Nat. Hist. Soc. 1: 7 (1904). Type citation: "Between Lennonville and Boogardie, Sept. 1903. - W.V.F." *Lectotype* (here selected): Near Lennonville (between it and Boogardie), W.A., Sept. 1903, *W.V. Fitzgerald s.n.* (NSW); *isolectotypes*: NSW, PERTH 00751006.

**Acacia flabellifolia** W. Fitzg., J.W. Austral. Nat. Hist. Soc. 1: 11 (1904). Type citation: "Arrino, Sept. 1903. - W.V.F." *Lectotype* (here selected): Arrino, W.A., Sept. 1903, *W.V. Fitzgerald s.n.* (NSW); *isolectotypes*: K (comm. W.E. Blackall 1936), NSW, PERTH 00752126 & 00752134 (fragment of unknown origin).

**Acacia linophylla** W. Fitzg., J.W. Austral. Nat. Hist. Soc. 1: 16 (1904). Type citation: "Cue, Mt. Magnet, Sept. 1903. - W.V.F." *Lectotype*: Nannine, Cue, Mt Magnet, W.A., Sept. 1903, *W.V. Fitzgerald s.n.* (PERTH 00763640), designated by B. Randell, J. Adelaide Bot. Gard. 14(2): 115 (1992); *isolectotypes*: NSW, PERTH 00763659 (ex herb. C.A. Gardner no. 1283B).

Note. The two specimens that are annotated by Fitzgerald have three localities on their labels: "Nannine, Cue, Mt. Magnet" but only the latter two were cited in the protologue (not all three as stated by Randell, *loc. cit.*). From our examination of the available type material there is no indication that more than a single gathering is involved. The label on the PERTH specimen selected by Randell as lectotype is on pink paper stock. *Acacia linophylla* is treated as conspecific with *A. ramulosa* W. Fitzg. by Randell (*loc. cit.*).

**Acacia mooreana** W. Fitzg., J.W. Austral. Nat. Hist. Soc. 1: 10 (1904). Type citation: "Capel River, June 1903. - W.V.F." *Lectotype* (here selected): Capel River, W.A., June 1903, *W.V. Fitzgerald s.n.* (NSW); *isolectotypes*: K (comm. W.E. Blackall 1936), NSW, PERTH 00764752.

**Acacia multilineata** W. Fitzg., J.W. Austral. Nat. Hist. Soc. 1: 13 (1904). Type citation: "Arrino, sand plains. September 1903. - W.V.F." *Lectotype* (here selected): Arrino, W.A., Sept. 1903, *W.V. Fitzgerald s.n.* (NSW 216915, left-hand specimen on sheet); *isolectotypes*: NSW 216915, right-hand specimen on sheet, PERTH 00765813, 00765791 (ex herb. C.A. Gardner no. 1306B), 00765805 (fragment, presumably ex herb. W.E. Blackall).

Note. The NSW type sheet supports two specimens of the same taxon, each with a label, the left-hand one on white paper stock and the right-hand one on pink. These specimens were unmounted until recently and we assume that the specimens and labels have been correctly matched. *Acacia multilineata* will be treated as a subspecies of *A. lineolata* in the forthcoming "Flora of Australia" account of *Acacia*.

**Acacia neurophylla** W. Fitzg., J.W. Austral. Nat. Hist. Soc. 1: 13 (1904). Type citation: "Cunderdin, in fl. Aug. fr. Nov., 1903. - W.V.F." *Lectotype* (here selected): Cunderdin, W.A., Aug. 1903, *W.V. Fitzgerald s.n.* (NSW, flowering specimen); *isolectotypes*: NSW, PERTH 01116673 (ex herb. C.A. Gardner no. 1303B) & 01116762. *Paralectotype* (fruiting specimens): Cunderdin, W.A., Nov. 1903, *W.V. Fitzgerald s.n.* (NSW, PERTH 00765767 & 00765759 - ex herb. C.A. Gardner).

Note. *Acacia neurophylla* will be regarded as comprising two subspecies in the forthcoming "Flora of Australia" account of *Acacia*.

**Acacia ramulosa** W. Fitzg., J.W. Austral. Nat. Hist. Soc. 1: 15 (1904). Type citation: "Lennonville, Sept. 1903. - W.V.F." *Lectotype*: Lennonville, W.A., Sept. 1903, *W.V. Fitzgerald s.n.* (PERTH 00769975), designated by B.R. Randell, J. Adelaide Bot. Gard. 14(2): 115 (1992); *isolectotype*: NSW.

**Acacia randelliana** W. Fitzg., J.W. Austral. Nat. Hist. Soc. 1: 14 (1904). Type citation: "Mount Malcolm, fl. July, 1899; 12 miles north-east of Kanowna, fr. Nov. 1903. - W.V.F." *Lectotype* (here selected): Mount Malcolm, W.A., July 1899, *W.V. Fitzgerald s.n.* (NSW, flowering specimen); *isolectotype*: PERTH 00769991. *Paralectotype* (fruiting specimens): 12 miles [19 km] north-east of Kanowna, W.A., Nov. 1903, *W.V. Fitzgerald s.n.* (NSW, PERTH 00769983 - not ex herb. W.V. Fitzgerald).

Note. *Acacia randelliana* will be treated as conspecific with a subspecies of *A. acuminata* in the "Flora of Australia" account of *Acacia*.

**Acacia resinimarginea** W. Fitzg. (as 'resinomarginea'), J.W. Austral. Nat. Hist. Soc. 1: 15 (1904). Type citation: "Coolgardie district. - E. Kelso." *Lectotype* (here selected): Coolgardie district, W.A., without date, *E. Kelso s.n.* (NSW); *isolectotypes* (dated 1902): NSW, PERTH 00770043 (ex Herbarium of the Department of Agriculture, W.A.).

Note. The lectotype is annotated by Fitzgerald on a "Herbarium of the Department of Agriculture, W.A." label (with "the Department of Agriculture W.A." cancelled). Unlike the *isolectotypes* (which are not annotated by Fitzgerald) the lectotype is without a collection date.

**Acacia resinistipulea** W. Fitzg. (as 'resinostipulea'), J.W. Austral. Nat. Hist. Soc. 1: 12 (1904). Type citation: "Nine miles north of Bullabulling, Nov. 1903. - W.V.F." *Lectotype* (here selected): 9 miles [14.5 km] N of Bullabulling, W.A., Nov. 1903, *W.V. Fitzgerald s.n.* (NSW); *isolectotypes*: NSW, PERTH 00770078 & 00770051 (ex herb. C.A. Gardner no. 1307B).

**Acacia ridleyana** W. Fitzg., J.W. Austral. Nat. Hist. Soc. 1: 12 (1904). Type citation: "Mogumber, Nov. 1903. - W.V.F." *Lectotype* (here selected): Mogumber, W.A., Oct. and Nov. 1903, *W.V. Fitzgerald s.n.* (NSW); *isolectotypes* (Nov. 1903): NSW, PERTH 00769460.

**Acacia sericocarpa** W. Fitzg., J.W. Austral. Nat. Hist. Soc. 1: 9 (1904). Type citation: "Cunderdin, fl. Aug., fr. Nov. 1903. - W.V.F." *Lectotype* (here selected): Cunderdin, Nov. 1903, *W.V. Fitzgerald s.n.* (PERTH 00771589, right-hand fruiting specimen). *Paralectotype*: Cunderdin, Aug. 1903, *W.V. Fitzgerald s.n.* (PERTH 00771589, left-hand flowering specimen; PERTH 00771562, ex herb. C.A. Gardner no. 1315B).

Note. No type material of *A. sericocarpa* has been located at NSW, therefore the lectotype is selected from the PERTH collection. Two Fitzgerald specimens from Cunderdin at BM (ex NSW) are labelled type but this is presumably an error as they are sterile and dated Aug. 1908.

**Acacia tratmaniana** W. Fitzg., J.W. Austral. Nat. Hist. Soc. 1: 8 (1904). Type citation: "Cunderdin, August 1903. - W.V.F." *Holotype*: Cunderdin, W.A., Aug. 1903, *W.V. Fitzgerald s.n.* (PERTH 00774200); *isotypes*: K (comm. W.E. Blackall 1936), PERTH 00774197 (ex herb. C.A. Gardner no. 1305B).

Note. The only material seen which is annotated by Fitzgerald is the PERTH sheet which we regard as the holotype.

***Acacia vernicosa*** W. Fitzg., J.W. Austral. Nat. Hist. Soc. 1: 11 (1904). Type citation: "Midland Junction and vicinity, fl. July, fr. Oct. 1901. Serpentine, fl. Aug. 1902. - WVF." *Lectotype* (here selected): Midland Junction, W.A., July 1901, *W.V. Fitzgerald s.n.* (PERTH 00775339, flowering specimen); *isolectotypes*: K (*sphalm.* "1903", comm. W.E. Blackall 1936), NSW, PERTH 00775320 (ex herb. C.A. Gardner). *Paralectotype 1* (fruiting specimen): Midland Junction, W.A., Oct. 1901, *W.V. Fitzgerald s.n.* (NSW). *Paralectotype 2* (flowering specimen): Serpentine, W.A., Aug. 1902, *W.V. Fitzgerald s.n.* (NSW).

Note. The NSW sheet presumed to be from Fitzgerald's personal herbarium supports a single label, a number of unmounted specimens and pods in an envelope. The label data is that given in the protologue and it is not possible to determine with certainty what collection(s) are represented. However, as the sheet may contain flowering specimens from both Midland Junction and Serpentine we have selected as lectotype the PERTH specimen which gives only the Midland Junction locality. *Acacia vernicosa* was treated as conspecific with *A. incrassata* Hook. by Maslin (1978).

***Acacia xerophila*** W. Fitzg., J.W. Austral. Nat. Hist. Soc. 1: 8 (1904). Type citation: "Bardoc, July, 1899. - W.V.F." *Lectotype* (here selected): Bardoc, W.A., July 1899, *W.V. Fitzgerald s.n.* (NSW); *isolectotypes*: PERTH 00776386 & 00776408 (fragment ex B).

Note. Fitzgerald's Bardoc collection is also the type of *A. fitzgeraldii* E. Pritzel, Bot. Jahrb. Syst. 35: 291 (Dec. 1904), published just seven months following the publication of *A. xerophila*. We assume that Pritzel used a specimen at B to prepare his account; however, this specimen appears no longer to exist (probably destroyed during the 1939-45 War) although PERTH has a fragment of it.

## 2. Species described in J. Bot. 50: 18-21 (1912)

This paper includes descriptions of miscellaneous new Western Australian taxa, including six species of *Acacia*. The *Acacia* species were based on material collected by Fitzgerald himself (*A. hynesiana*) and by R. Helms (*A. inaequiloba*), M. Koch (*A. ewartiana*, *A. eremophila*, *A. kochii*) and F.H. Vachel (*A. brachyclada*).

A footnote on the first page of the paper states: "Specimens of the plants here described, with the exception of *A. inaequiloba* and *Regelia sparsifolia*, are in the National Herbarium." The authorship of the note raises interesting and perhaps significant questions: if the note was Fitzgerald's, one might assume that the National Herbarium he referred to was that at Melbourne (MEL), but, if it was an editorial note added by the editor, James Britten, to what herbarium was he referring? Although the British Museum (Natural History) is rarely described as the "National Herbarium", we found that at least for Britten it was an accepted term. On page 245 of the same volume in which the paper was published, in an article by Britten, he quotes another author who had written of the "Herb. Mus. Brit.", but in the next paragraph Britten refers to specimens "in the National Herbarium". We therefore conclude that the footnote was probably added by Britten and that the herbarium referred to was BM. This is also in accord with the fact that there are specimens at BM of all but one (*A. inaequiloba*) of the six *Acacia* species published by Fitzgerald in this 1912 paper.

The labels accompanying the BM specimens are in Fitzgerald's hand and are from what we presume was his personal herbarium. At NSW the specimens of the same collections (except *A. hynesiana* and *A. kochii*) are annotated by Fitzgerald with the published name but unlike those at BM the rest of the label is not in his hand and the specimens are not from his personal herbarium. Except where otherwise noted below, specimens that we have seen of these same collections at K, MEL and PERTH are not annotated by Fitzgerald. Since there are annotated sets of Fitzgerald specimens at both BM and NSW, lectotypification is regarded as desirable. In designating lectotypes we have, except for *A. inaequiloba*, given preference to the BM specimens.

Publication of this paper was delayed for some considerable time, apparently for lack of funds for printing. On page 286 of the volume in which Fitzgerald's new species were published, the editor, James Britten, commented "We note with regret that the publication of several plants described by Mr. W.V. Fitzgerald on pp. 18-23 has been anticipated by Dr. Ewart and Dr. Jean White in their 'Contribution to the Flora of Australia' [Ewart, White and Wood 1911]... It is right to say that the author is not to blame for this, at any rate in the majority of cases, as his paper had been in our possession some time before its publication ...." He goes on to say that because Ewart and White had failed to include Latin diagnoses, their names could not be regarded as validly published. While he was correct at the time he wrote the note, the "International Code of Botanical Nomenclature" (Greuter *et al.* 1988) has required Latin diagnoses for valid publication only since 1935. Of the six species of *Acacia* described in this 1912 paper three had been published earlier by Ewart and White (1911), namely, *A. ewartiana* W. Fitzg. ex J. White (= *A. dielsii* E. Pritzel), *A. leptoneura* Benth. var. *eremophila* W. Fitzg. ex Ewart & J. White (= *A. eremophila* W. Fitzg.) and *A. kochii* W. Fitzg. ex Ewart & J. White. Both Fitzgerald and Ewart & White based their names on the same Max Koch collections, although we know (or presume) that they used different specimens. A similar situation was encountered by Short (1992): MEL specimens were used by Ewart and White to describe *Trichinium eriotrichum* W. Fitzg. ex Ewart & White (1910) and, quite independently, Fitzgerald described *Ptilotus eriotrichus* (1912) on the basis of different specimens of the same collection at NSW.

Because three of the species in this 1912 paper were based on Max Koch collections, it must be recalled that Koch's numbers are taxon numbers, not collecting numbers, thus one often encounters specimens with the same number but with different dates. This unfortunate situation often leads to difficulties when typifying names based on Koch collections. Therefore, in order to specify unambiguously a particular gathering one must associate the taxon number with a date of collection. At NSW the problem is sometimes compounded by the earlier policy of not mounting specimens; as a consequence there is the potential for labels and their associated specimens to become separated and mixed.

***Acacia brachyclada*** W. Fitzg., J. Bot. 50: 20 (1912). Type citation: "Kellerberin; F.H. Vachel". *Lectotype* (here selected): Kellerberin, W.A., Dec. 1903, *F.H. Vachell s.n.* (BM); *isolectotypes*: MEL (ex NSW), NSW (two sheets), PERTH 00742600 (fragment ex MEL).

***Acacia eremophila*** W. Fitzg., J. Bot. 50: 19 (1912). Type citation: "Apud planities arenosa, Cowcowing; Max Koch (nos. 1024, 1024a)." *Lectotype* (here selected): Cowcowing sandplain, W.A., Aug. 1904, *M. Koch* 1024a (BM); *isolectotypes*: NSW, PERTH 00763136, 00838292 & 01505246. *Paralectotype*: Cowcowing, Sept. 1904, *M. Koch* 1024a (NSW, PERTH 00750980).

Note. Although the protologue lists *Koch* 1024 and 1024a as the basis for *A. eremophila*, this is clearly an error; Koch's own notes in archives of the Western Australian Herbarium lists a *Grevillea* species



for 1024 and *A. eremophila* for 1024a. The only herbarium where the number 1024 appears is at NSW on a scrap of newsprint attached to a sheet annotated by Fitzgerald.

*Koch* 1024a comprises a mixed collection of both flowering and young fruiting specimens which were gathered in July and August 1904 (judging from Koch's own labels on specimens at BM, NSW and PERTH) and presumably also September (judging from NSW 216932, which bears a "National Herbarium of New South Wales" label). However, as far as we are aware, Fitzgerald has annotated only the August and September collections as to the published name, thus the July collection is not regarded as a type. *Acacia leptoneura* var. *eremophila* Ewart & White was also based on *Koch* 1024a but we have not examined the type material which we assume would be at MEL but only the original drawings for figures 1-4 of the protologue have been located there (Short pers. comm.).

***Acacia ewartiana*** W. Fitzg., J. Bot. 50: 19 (1912). Type citation: "Cowcowing; Max Koch (no. 998)." *Lectotype* (here selected): Cowcowing, W.A., Aug. 1904, *M. Koch* 998 (BM); *isolectotypes*: K, MEL (*n.v.*, 2 sheets), NSW, PERTH 00751618. *Paralectotype*: Cowcowing, W.A., *M. Koch* 998, Sept. 1904 (MEL *n.v.*, NSW, PERTH 00751596).

Note. We have seen specimens of *Koch* 998 dated July, August and September 1904; however, as far as we are aware, Fitzgerald annotated only the August and September collections as to the published name. *Acacia ewartiana* W. Fitzg. ex J. White in Ewart, White & Wood (1911) was also based on *Koch* 998 and there are syntypes at MEL (which we have not seen), also collected in August and September 1904. The name *A. ewartiana* will be treated as a synonym of *A. dielsii* E. Pritzel in the "Flora of Australia" account of *Acacia*.

***Acacia hynesiana*** W. Fitzg., J. Bot. 50: 20 (1912). Type citation: "Planities arenosa prope Kellerberrin; leg. W.V.F." *Holotype*: Kellerberrin, W.A., Nov. 1907, *W.V. Fitzgerald s.n.* (BM); *isotypes*: MEL (fragment), NSW, PERTH 00760536 (ex NSW).

Note. As far as we are aware only the BM specimen is annotated by Fitzgerald and we therefore regard it as the holotype. The name *A. hynesiana* will be treated as a synonym of *A. merinthophora* E. Pritzel in the "Flora of Australia" account of *Acacia*.

***Acacia inaequiloba*** W. Fitzg., J. Bot. 50: 18 (1912). Type citation: "Victoria Desert, Castra 56; R. Helms (Elder Exploring Expedition)." *Holotype*: Victoria Desert, Camp 56 [c. 95 km NE of Streich Mound, W.A.], 19 Sept. 1891, *R. Helms* 15 (NSW 180591); *isotypes*: AD, NSW (specimen ex Linn. Soc. N.S.W.), PERTH 02741059 (fragment ex herb. C.A. Gardner).

Note. The protologue clearly stated that the material used to describe this species is at NSW. This comprises two small (unmounted) flowering specimens which we regard as representing the holotype. A note by Fitzgerald accompanying these specimens is substantively the same as the discussion given in the protologue. There is no indication that the holotype specimen was ever part of Fitzgerald's personal herbarium.

***Acacia kochii*** W. Fitzg., J. Bot. 50: 20 (1912). Type citation: "Rabbit-proof fence east of Watheroo; Max Koch". *Lectotype* (here selected): Watheroo Rabbit Fence, W.A., Aug. 1905, *M. Koch* 1616 (BM, left-hand specimen on sheet); *paralectotypes*: BM (dated Aug. 1905), MEL (*n.v.*, dated Sept. 1905), NSW (two sheets, one dated Sept. 1905, one dated Aug.-Sept. 1904), PERTH 00762067 (dated Sept. 1905).

Note. As evidenced by sheets at BM, MEL, NSW and PERTH there is variation in the date of collection of *Koch* 1616. Koch's own labels give the date as August and September of both 1904 and 1905. The BM sheet of 1616 supports two specimens and two labels (one annotated August 1905 by Koch, the other September 1904 by Fitzgerald). The left-hand specimen on the sheet (which we have chosen as the lectotype) is the more informative and we assume that the Fitzgerald label with the September 1904 date belongs to this specimen. The single MEL specimen of *Koch* 1616 (which is dated by Koch as September 1905) is the holotype of *A. kochii* W. Fitzg. ex Ewart & White (1911).

### 3. Species described in Maiden, J. & Proc. Roy. Soc. New South Wales 51: 71-124 (1917)

In this paper three new Kimberley *Acacia* species were described, namely, *A. curvicarpa*, *A. kimberleyensis* and *A. pachyphloia*. Although Maiden provided the Latin descriptions and added some observations of his own he clearly attributed these taxa to Fitzgerald (see protologues, also footnote on title page of paper). Thus, as with Short (1993), we regard the author citations to be W. Fitzg. in Maiden, not W. Fitzg. ex Maiden & W. Fitzg. as is given by Chapman (1991).

A knowledge of the history of the publication of these three names bears on the typification of them. Initially Fitzgerald prepared the descriptions as part of a large manuscript entitled "Notes on the Flora of North-West Australia with descriptions of some new genera and species". As discussed by Short (1993) this manuscript was completed by, at the very least, early 1912. A copy was submitted to J. Britten (BM) around this time with the request that it be published, but this never happened. The manuscript indicates by symbols that Fitzgerald specimens of a number of the species, including *A. curvicarpa* and *A. kimberleyensis*, were deposited at BM. In 1916 Fitzgerald submitted another copy of the manuscript to J.H. Maiden (NSW), along "with some herbarium specimens" (Maiden in Fitzgerald 1918). Maiden subsequently communicated this to the Royal Society of Western Australia where it was published in 1918. In the previous year, however, Maiden had published for Fitzgerald the three new *Acacia* species; this was done in the context of a review of *Acacia* species "Mr Fitzgerald has recorded as new for the tropical west" (Maiden 1917). In his own publication Fitzgerald (1918) merely listed these three names, noting that they had already been published in Maiden's paper. As a matter of interest, in 1906 Fitzgerald had published photographs and habitat notes, but no descriptions, of *A. curvicarpa* and *A. kimberleyensis* in "The Western Mail" (Perth).

Fitzgerald collected the material of his three new *Acacia* species when he was a member of Charles Crossland's expedition to the Kimberley in 1905. With reference to Fitzgerald's Kimberley collections Maiden (1917: 108) stated that some "have been very much dispersed, and no complete set of them exists;". He further noted that he had received Fitzgerald specimens from two sources: (1) "Some of Mr. Fitzgerald's specimens came into my care through purchase from a person into whose hands they had passed..." [i.e. via J. Staer in about late 1909, K.F. Kenneally pers. comm.]; (2) "Some of Mr. Fitzgerald's Acacias from the herbarium of the W.A. Department of Agriculture (received by me from Dr. F. Stoward) are published in the present paper." The following year (1918) in a series of notes prefacing Fitzgerald's most important publication on the Kimberley, Maiden stated that "In April, 1917, I received from Dr. Stoward, specimens of 53 species now described in this paper. These are in the National Herbarium of Sydney, and the original set is with Dr. Stoward at Perth." Although there were no *Acacia* species described in this work, Maiden's comment shows that he considered the first set of Fitzgerald's Kimberley specimens to be in Perth and the duplicate set at NSW. In our typification of *A. curvicarpa* and *A. kimberleyensis* (below) we have adopted that point of view in regarding the PERTH specimens as the primary set.

Because the relevant specimens at BM, NSW and PERTH are annotated by Fitzgerald, implying they all were used in preparing the protologue, we consider lectotypification desirable, even though for *A. curvicarpa* and *A. kimberleyensis* only a single collection is cited. Except where otherwise noted, the PERTH labels of all three species (i.e. the two above plus *A. pachyphloia*) are annotated by Fitzgerald on a printed label titled "Herbarium of the Department of Agriculture, W.A." This label does not occur on specimens at BM or NSW. Unlike specimens elsewhere, those at PERTH have Fitzgerald collecting numbers.

***Acacia curvicarpa*** W. Fitzg. in Maiden, J. & Proc. Roy. Soc. New South Wales 51: 114 (1917). Type citation: "Near the junction of the Hann and Barnett Rivers (W.V.F.). On quartzite hills." *Lectotype* (here selected): Near Junction of Hann & Barnett Rivers, W.A., June 1905, W.V. Fitzgerald 1123 (PERTH 00746762); *isolectotypes*: BM (one specimen ex NSW, the other ex herb. W.V. Fitzgerald - the latter with a label on pink paper stock, see above), K (ex NSW), NSW (ex herb. W.V. Fitzgerald, the label on white paper stock, see above), PERTH 00746754 (on a "State Herbarium, Western Australia" label, not annotated by Fitzgerald).

Note. *Acacia curvicarpa* is regarded as synonymous with *A. acradenia* F. Muell. in the "Flora of Australia" account of *Acacia*.

***Acacia kimberleyensis*** W. Fitzg. in Maiden, J. & Proc. Roy. Soc. New South Wales 51: 112 (1917). Type citation: "Packhorse Range, Kimberley district. Amongst sandstone. (W.V.F.)" *Lectotype* (here selected): Packhorse Range, W.A., July 1905, W.V. Fitzgerald 1222 (PERTH 00761621); *isolectotypes*: BM (one specimen ex NSW, the other ex herb. W.V. Fitzgerald - the latter with a label on pink paper stock, see above), NSW (ex herb. W.V. Fitzgerald, the label on white paper stock, see above).

***Acacia pachyphloia*** W. Fitzg. in Maiden, J. & Proc. Roy. Soc. N.S.W. 51: 116 (1917). Type citation: "Slopes of Bold Bluff; hills near C.92, in proximity to the Synnott Range; hills by the Charnley and Calder Rivers (W.V.F.)." *Syntype*: near C92, Synnott Range, W.A., July 1905, W.V. Fitzgerald 1267 (NSW 65871, PERTH 00765864).

Note. As we have seen only the one syntype of this name, and as the species will be prepared for the "Flora of Australia" by M.D. Tindale (NSW), we do not wish to pre-empt taxonomic decisions by lectotypifying this name here.

#### 4. Species described in Maiden, J. & Proc. Roy. Soc. New South Wales 51: 238-274 (1917)

Included in this paper was the description of *A. drewiana*, a new species which Maiden clearly attributed to Fitzgerald. As far as we are aware, the only specimen annotated by Fitzgerald is at NSW and this is therefore regarded as the holotype. The label on this specimen is on white paper stock and titled "FLORA OF AUSTRALASIA" (this sort of label is not commonly found on Fitzgerald *Acacia* specimens at NSW).

***Acacia drewiana*** W. Fitzg. in Maiden, J. & Proc. Roy. Soc. New South Wales 51: 273 (1917). Type citation: "Type from Cannington (W.V.F.)" *Holotype*: Cannington, W.A., Feb. 1905, W.V. Fitzgerald s.n. (NSW 133030); *isotype*: PERTH 00749451, ex NSW.

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